Appl. No. 09/820,210 Amdt. dated June 27, 2005 Reply to Office Action of January 26, 2005

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1 (Previously presented) A heterofunctional crosslinking reagent having

2 the formula:

3 wherein L1 and L2 are each independently selected from the group consisting of a bond, a 4 5 substituted or unsubstituted (C2-C24) alkylene group, a substituted or 6 unsubstituted (C₂-C₂₄) heteroalkylene group, a polyethyleneglycol group, a polyalcohol group, a polyamine group, a polyester group and a 8 polyphosphodiester group; -L³-Z is an optionally protected amino acid side chain having a pendant reactive 9 10 group, said reactive group selected from the group consisting of lysine, 11 cysteine, serine, aspartic acid, glutamic acid, and threonine; 12 X is a non-covalent protein tag binder that specifically binds to a protein tag portion .13 of a protein; and 14 Y is a photoactivatable covalent crosslinking group adapted to covalently link the 15 heterofunctional crosslinking reagent at or adjacent to said protein tag, said 16 said photoactivatable covalent crosslinking group is a member selected from 17 the group consisting of aryl ketones, azides, diazo compounds, diazirenes, and 18 ketenes.

2.-4. (Canceled)

5. (Original) A heterofunctional crosslinking reagent of claim 1, wherein L¹ is a cleavable linking group.

6.-8. (Canceled)

- 9. (Original) A heterofunctional crosslinking reagent of claim 1, wherein X is selected from the group consisting of metal chelating groups, peptides, an organoarsenical moiety and small molecule ligands or inhibitors.
- 1 10.-25. (Canceled)

1

3

8

9

10

11

12

13

14

15

wherein

1 26. (Currently Amended) A protein conjugate comprising a protein and a 2 heterofunctional crosslinking reagent, said conjugate having the formula:

L¹ and L² are each independently selected from the group consisting of a bond, a substituted or unsubstituted (C₂-C₂₄) alkylene group, a substituted or unsubstituted (C₂-C₂₄) heteroalkylene group, a polyethyleneglycol group, a polyalcohol group, a polyamine group, a polyester group and a

polyphosphodiester group;

-L³-Z is an optionally protected amino acid side chain having a pendant reactive group, said reactive group selected from the group consisting of lysine, cysteine, serine, aspartic acid, glutamic acid, and threonine;

X is a non-covalent protein tag binder that specifically binds to a protein tag portion of [[a]] said protein; and

Y' is the residue of a photoactivatable covalent crosslinking group after formation of a covalent linkage to said protein, said photoactivatable covalent crosslinking

Appl. No. 09/820,210 Amdt. dated June 27, 2005 Reply to Office Action of January 26, 2005

PATENT

16	group covalently attached at or adjacent to said protein tag portion of said
17	protein, said photoactivatable covalent crosslinking group is a member
18	selected from the group consisting of aryl ketones, azides, diazo compounds,
19	diazirenes, and ketenes.
1 .	2777. (Canceled)
1	78. (Previously presented) A heterofunctional crosslinking reagent of
2	claim 1, wherein X is an antibody or antibody fragment.